

## **REMARKS**

### **Rejection of the Claims Under 35 U.S.C. §112, second paragraph**

(Item numbers correspond to the numbers for each issue in the Office Action)

#### **Item 1:**

Claim 6 is amended to further clarify the claim. Support for this amendment can be found, for example, on page 11, line 17 to page 14, line 8.

Applicants note the Examiner's position that hydrocarbon radicals by definition only contain carbon atoms and any deviation from this leads to a contradiction in that meaning. However, the terminology used by applicants is common in the chemical arts as can be seen from numerous (thousands of) patents in the chemical arts using this type of terminology (two such patents were previously pointed out to the Examiner in the last reply), and is thus clear to one of ordinary skill in the art.

Additionally, even if such was not the case, which it is, applicants provide by definition and by numerous named species of what is within the meaning of this term rejected (see page 11, line 17 to page 14, line 8) ample guidance in the specification for one of ordinary skill in the art to clearly understand the meaning of the term. An applicant is given the freedom to be his/her own lexicographer. See *Astrazeneca AB v. Mutual Pharmaceutical Co.*, 72 USPQ2d 1726 (CA FC 2004).

For all these reasons, the technical contradiction in the definition of hydrocarbon must give to what is commonly used in this art and understood by those of ordinary skill in the art.

The Office Action also inquires about the possible binding of the nitrogen group in the hydrocarbon radical. It is clear from the disclosure that when nitrogen is present in the radical  $R^1$  and/or  $R^2$ , it can be in the form of -NH- [see, for example, page 13, lines 18-19], -N(a substituent, such as alkyl)- [see, for example, page 13, line 17] or -N= in aromatic radicals [see, for example, page 13, lines 26-28]. There is no ambiguity even without this disclosure in the specification, but even if such was the case, the specification clears things up on this issue.

Reconsideration is respectfully requested.

#### **Item 2:**

Support for the amendment to claim 1 on this item (rejection of the term "tertiary

phosphane”) can be found, for example, in the paragraph bridging pages 18 and 19.

Item 3:

Support for the amendment to claim 1 on this item (rejection of the term “tertiary phosphine”) can be found, for example, on page 18, line 23.

Item 4:

Claim 32 is cancelled.

Item 5:

Applicants respectfully disagree with this rejection.

The exact chemical structure of the bridging group is not critical to the invention claimed. As long the bridging group fulfills its function, which is to bridge or link the one or more water-solubilising polar substituents to substituents of the phosphine group, it is within the scope of the claims.

Here applicants claim a part of an overall structure, i.e., the bridging group, by its function, which does not offend any principles of patent law. There is nothing wrong with defining something by what it does rather than what it is. See *In re Hallman*, 210 USPQ 609 (CAFC 1981). And nor is a claim indefinite merely because it is functional. See *In re Miller*, 169 USPQ 597 (CCPA 1971). “Indeed [the courts] have even recognized in the past the practical *necessity* for the use of functional language.” See *In re Swinehart*, 169 USPQ 226 (CCPA 1971).

Furthermore, “the standard of indefiniteness is somewhat high; a claim is not indefinite merely because its scope is not ascertainable from the face of the claims. Rather, a claim is indefinite under §112 ¶ 2 if it is ‘insolubly ambiguous.’” See *Amgen Inc. v. Hoechst Marion Roussel Inc.*, 65 USPQ2d 1385 (CAFC 2003) (internal citations omitted). Such insoluble ambiguity is not present in the current claims.

The claimed bridging group bridges or links two specific groups together. As long as the rest of the claimed structure is within the scope of the claims, any group that acts as a bridging group, i.e., performs the claimed function, is within the scope of the claims. As such, the nature of this group and possible structures for this group are readily understandable and determinable

by one of ordinary skill in the art.

The Office Action alleges that there is no guidance as to what the nature of the bridge is. The specification on page 30, lines 19-29, describes a variety of bridging groups by general formulae. A new claim directed to such groups is added. This guidance directs one of ordinary skill in the art to a large number of possible specific bridging groups.

Two cases are particularly relevant here. See *In re Fuetterer*, 138 USPQ 217 (CCPA 1963) and *In re Barr*, 170 USPQ 330 (CCPA 1971).

In *Barr* the terms "5-pyrazolone coupler radical," and "open-chain ketomethylene coupler radical" were rejected as allegedly impermissibly indefinite as they would have read on "any substituted derivative" of the claimed compounds of the claims rejected. The court held that "as a claim for 'all compounds containing sulfur'" would be definite, so would be the rejected terms. The court said that

In summary, we hold that an applicant may invoke the third paragraph of section 112 to justify the specification of one or more elements of a claimed compound in "functional" terms ... The real issue in any such case is not whether the recital is "functional" ..., but whether the recital sets definite boundaries on the patent protection sought--that is, whether those skilled in the relevant art can determine what the claim does or does not read on.

In *Fuetterer* the term "inorganic salt" whose purpose in the claims was to hold in a colloidal suspension a mixture of proteins and carbohydrates was rejected under the rationale that the term is functional and "reads on literally thousands of materials, many of which would *not be operative* for applicant's purpose." The relevant specification provided a list of four possible salts. The court disagreed with the rejection, holding that the use of this functional language is definite to one of ordinary skill in the art. The court further stated that "we see nothing in patent law which requires appellant to discover which of all those salts have such properties and which will function properly in his combination. The invention description clearly indicates that any inorganic salt which has such properties is usable in his combination." Thus, the claims "should not be so restricted that they can be avoided merely by using some inorganic salt not named by appellant in his disclosure."

Likewise here, one of ordinary skill in the art based on the guidance in the specification and in view of what is known in the art can easily select a linking group. If the claims here

would be limited to the linking groups specifically described in the specification, others in the art can avoid the claims and encroach on the claimed invention by merely making an easy selection to a bridging group not specifically claimed. Such is not warranted in a case as this where the functional language of the claims is definite to one of ordinary skill in the art.

Reconsideration is respectfully requested.

Item 6:

This item must have been included by mistake since the claims rejected here have been amended to attend to this issue previously.

The rejection of the term “compound” which replaced the term “derivative”:

The Examiner rejects the term “compound” as allegedly indefinite where it replaces the term “derivative.” The Office Action alleges that it is not the breadth of the term that is the issue, but rather the not clear definition of the line between compounds that fall within the claims and those that do not.

As discussed in previous replies, and as described in the specification, there are many pterin compounds (derivative) known in the art, and those of ordinary skill in the art have no problem identifying pterin compounds. Even the Office Action acknowledges the existence of many pterin compounds known in the art. As long as the pterin structure is present in the pterin compound in a form such that one of ordinary skill in the art recognizes such to be a pterin compound, such is intended to be within the scope of the claims. Clearly defining a line between what pterin compound fall within the claims is not necessary here to make this claim definite, as all pterin compounds are intended to be encompassed by the claims.

Listing all the known pterin compounds is not an easy task or even possible, and limiting the invention to such a compiled list only gives the opportunity to others to encroach on the claimed invention by merely making an selection to a derivative inadvertently left out from such a compiled list.

Additionally, even if this broad term includes inoperable embodiments, such is not a problem, as one of ordinary skill in the art would know how to avoid such. See *In re Dinh-Nguyen*, 181 USPQ 46 (CCPA 1974). Patent law does not require that an applicant making a broad invention limit his/her invention to specific embodiments that are clearly defined by a line.

See *Atlas Powder Company v. E.I. Du Pont De Nemours & Company*, 224 USPQ 409 (CA FC 1984). (The court held that it would have been impossible for applicants to list all operable emulsions and exclude the inoperable ones, and that such a list unnecessary, because one skilled in the art would know how to select a salt and fuel and then apply "Bancroft's Rule" to determine the proper emulsifier.)

Reconsideration is respectfully requested.


**Additional Amendments**

Claim 17 is amended. Support can be found, for example, on page 18, line 15 to page 19, line 6.

A few new dependent claims were added. Support for new claim 43 can be found, for example, on page 11, line 24 to page 12, line 12. Support for new claim 44 can be found, for example, on page 30, lines 19-29. Support for new claims 45 and 46 can be found, for example, on page 7, line 14 to page 8, line 9, line 25.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

  
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